DEFENSE NUCLEAR FACILITIES SAFETY BOARD

December 7, 2001

MEMORANDUM FOR: J. Kent Fortenberry, Technical Director
FROM: C. H. Keilers, Jr.
SUBJECT: Los Alamos Report for Week Ending December 7, 2001

Radiography Facility (TA-8-23): This week, DOE approved a LANL Justification for Continued Operation (JCO) to permit radiography of two assemblies of combined high explosive and radioactive material (site rep weekly 11/23/01). The JCO expires in February 2002.

Plutonium Handling and Processing Facility (TA-55): The Fire Protection Yard Main Replacement Project is underway to ensure adequate water supply to the fire suppression system (site rep weekly 11/23/01). Initial tie-ins are expected in late January 2002. While this will be a definite improvement, questions exist on the effectiveness of the fire suppression system inside the building. Some of these have been long recognized and slow in resolution. For example, the question on low flow to remote sprinkler heads (site rep weekly 11/2/01) was raised about a year ago, a positive Unreviewed Safety Question was prepared in August, a facility evaluation was done in October, and a LANL recommendation was submitted to DOE last week. Another lingering question is what NFPA class should apply to building hose stations. A LANL June 2001 evaluation indicates that the system now cannot support the class suggested by the applicable DOE standard (STD-1066-99). Other questions exist in the most recent LANL fire hazard analysis, completed within the last year. It would appear that a timely, comprehensive review of TA-55 fire suppression is warranted that considers performance with both the current and new fire water supply systems.

Recommendation 2000-2: During Phase I, LANL identified one confinement ventilation system and one fire protection system to be outliers, out of 53 vital safety systems reviewed. Both belong to the Chemistry and Metallurgy Research Building (CMR) – a facility with compensatory measures in place and limited remaining service life. LANL is now proposing to DOE that Phase II assessments begin early next year for the following:

- Radiochemistry Laboratory (TA-48, RC-1) confinement ventilation system;
- Radiochemistry Laboratory (TA-48, RC-1) sprinkler system;
- Plutonium Handling Facility (TA-55, PF-4) fire alarm system;
- Site-wide fire alarm system/network; and
- LANL maintenance program.

LANL has stated that cognizant facility management have reviewed the candidate systems and concluded that, in most cases, operability issues are understood and appropriate actions are being taken such that Phase II assessments are not warranted, except as identified above. One exception is TA-48, a Hazard Category 3 facility not included in Phase I with safety basis upgrades underway. The site rep believes that there may be other systems that warrant Phase II review, such as the TA-55 fire suppression system discussed above.

Also, many of the identified issues are related to configuration management and maintenance. LANL contends that institutional and facility-specific configuration management upgrades are either planned or underway to address the known deficiencies and that a Phase II assessment focused on maintenance practices may be beneficial. LANL is also proposing a Phase II assessment of the site-wide fire alarm system, possibly in June 2002. The design of a partial system replacement is underway. The Phase II review may identify remaining weaknesses, similar to those now causing signal delays between facility alarm panels and the central alarm station (site rep weekly 9/28/01).